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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,329	11/28/2001	Vaughn Mower	SL-080;528-9769-US (PAR)	3583
7590	02/27/2006		EXAMINER WONG, LINDA	
Clarence A. Green Perman & Green, LLP 425 Post Road Fairfield, CT 06430			ART UNIT 2634	PAPER NUMBER

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/996,329

Applicant(s)

MOWER ET AL.

Examiner

Linda Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 12/08/2005 have been fully considered but they are not persuasive.
2. On page 2, lines 30-36, the applicant argue the reference, Culpepper et al, does not disclose a DSP80, which eliminates interference. Col. 2, lines 40-53, Culpepper et al discloses the disadvantages of the prior art (Fig. 2). Col. 2, lines 60-62, Culpepper et al discloses the object of the present invention is to "reduce spectrum-spreading and resulting interference in the receiver." The DSP80, Fig. 9, is part of Culpepper et al's invention, which indicates the DSP80 functions to reduce interference in the receiver. Furthermore, the secondary reference, Weinberg et al discloses a computer, which detects and characterizes the interference. (Fig. 1, labels interference detection and interference characterization) As stated in the office action mailed 8/8/2005, it would be obvious to incorporate the computer into Culpepper et al's invention to provide rapid detection of interference and to isolate signal signatures for characterization. (Col. 1, lines 16-20 and lines 22-27)
3. On page 3, lines 23-26, the applicant argue Culpepper et al does not perform spectrum analysis function. Based on the definition of spectrum analysis, a digital spectrum analyzer uses an FFT to output the frequency spectrum of the input signal. (Wikipedia, Spectrum Analyzer, page 1) Thus, the FFT acts as a device that spectrally analyzes the input signal.

4. ON page 4, lines 1-6, the applicant argue that the AGC 154 and limiter does not have any relation with the burst clamp and AGC feedback loop. Claim 1 recites the limitation "a burst claim coupled at its output to said spectrum analyzer, said burst clamp activated to clamp a received signal at a predetermined level when a predetermined threshold in said received signal is reached." Regarding the argument of the burst clamp, Culpepper et al discloses the limiter limits the signal. (Col. 15, lines 15-16) Based on the definition of limiter, the limiter allows signals below a set value or threshold to pass but clips off anything above the set value or threshold. (Wikipedia, Limiter, page 1) Regarding the argument of the feedback AGC loop or tune signal loop, Culpepper et al discloses in Fig. 9 the FFT control which outputs a feedback signal to the BPF, which outputs the filtered signal to the AGC and the AGC adjusts the signal level. (Col. 15, lines 10-17 and lines 22-23) The tune signal loop is outputted to the summation from the AGC (Fig. 9, label 159), wherein the summation is coupled to the PN code (Fig. 9, label 160) and the PN code outputs a signal to the FFT control (Fig. 9, label 163). The FFT controls receives inputs from the PLL (Fig. 9, labels 153 and input label PLL Lock to label 163), PN code (Fig. 9, labels 160 and input label PN to label 163), RSSI Detect (Fig. 9, labels 158 and input label RSSI Det to label 163). Thus, the tune adjust loop affects the FFT control, which controls the BDF and indirectly controls the output from the AGC.
5. On page 4, lines 10-26, the applicant argue the secondary reference, Weinberg, does not disclose a spectrum analyzer. The claim states the spectrum analyzer

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spectrally analyzes the input signal. Based on the definition of "spectrally", the spectrum analyzer is outputting a spectrum of characteristics of the data signal. (Definition: spectrum, page 1, number 3 and spectral, page 1, number 2) The paragraph disclosed in the applicant's arguments, page 4, lines 18-24, states a system that is "unlike the spectrum analyzer". Weinberg also discloses outputting characteristics of the data in the line, "the system of this invention processes data containing amplitude, phase, and frequency information that has been coherently extracted from the desired signal's demodulated data." Weinberg discloses extracting characteristics of the data signal and provides a more sensitive spectrum analysis, which indicates that Weinberg's improved spectrum analyzer performs the functions of outputting a spectrum of characteristics of the data signal.

6. Rejections to claims 1-12 are as stated in the previous office action, mailed 8/8/2005.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Culpepper et al (US Patent No.: 5657026) further in view of Weinberg et al (US Patent No.: 5144642).
- a. **Claims 1 and 7**, Culpepper et al discloses a beacon signal receiving system for tracking portable transmitters as well as eliminating interference comprising a spectrum analyzer (Fig. 9, label 154), a burst clamp or limiter coupled to the spectrum analyzer (Fig. 9, labels 152 and 154) for clamping a signal at a predetermined level (Col. 15, lines 15-17), an automatic gain control (AGC) coupled to the input of the burst clamp or limiter (Fig. 9, labels 151, and 152) and coupled to the output of the burst clamp (Fig. 9, labels 151, 152) through a feedback loop (Fig. 9, label TUNE). Although Culpepper et al does not disclose a computer coupled to the output of the spectrum analyzer, Weinberg et al discloses an AGC coupled to a spectrum analyzer coupled to a computer, wherein the computer records characteristics of the type of interference. (Fig. 1, label 25, Fig. 2, labels 31, 38 and 41 and Col. 3, lines 45-47, Col. 3, lines 65-68, Col. 4, lines 1-3 and Col. 4, lines 23-27) It would be obvious to one skilled in the art to incorporate a computer disclosed by Weinberg et al to Culpepper et al's invention to rapid detection of interference and to isolate signal signatures for characterization. (Col. 1, lines 16-20 and lines 22-27)

8. **Claims 2 and 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Culpepper et al (US Patent No.: 5818389) further in view of Weinberg et al (US Patent No.: 5144642) further in view of Toyoda et al (US Patent No.: 5260792).
- b. **Claims 2 and 8**, Although Culpepper et al and Weingberg et al fail to teach the time constant of the AGC is greater than the time constant of the interference, Toyoda et al discloses an AGC, wherein the AGC time constant is adjusted based on the hum or interference. It would be obvious to one skilled in the art to provide an adjusting automatic gain control to have a time constant greater than the time constant of the interference in order to catch and level the interference so to reduce the error found within the signal outputted from the AGC. (Col. 3, lines 33-55)
9. **Claims 3-5, 9-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Culpepper et al (US Patent No.: 5818389) further in view of Weinberg et al (US Patent No.: 5144642) further in view of Jagger et al (US Patent No.: 6807405).
- a. **Claim 3-5, 9-11**, Although Culpepper et al and Weinberg et al fail to disclose a computer that determines the burst interference duration, repetition rate and duty cycles, Jagger et al discloses an invention that continuously scans the presence of interference, which comprises a computer, in the form of a cellular system manager, that computes the "time of occurrence, frequency and duration of the interfering signal presence." (Col. 5, lines 22-25) It would be

obvious to one skilled in the art to compute these characteristics of the interference found to effectively eliminate such disturbance.

10. **Claims 6 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Culpepper et al (US Patent No.: 5818389) further in view of Weinberg et al (US Patent No.: 5144642) further in view of Cai et al (US Patent No.: 5267272).

- a. **Claims 6 and 12**, Although Weinberg et al and Culpepper et al fail to teach a computer for computing characteristics of the interference found in the signal used for adjusting the AGC, Cai et al discloses digital controller or computer for selecting an appropriate adjustment to the AGC based on the characteristics of the interference. (Col. 3, lines 40-53 and Col. 6, lines 10-13) It would be obvious to one skilled in the art to use a characteristics of the interference found in a signal to adjust the AGC to provide improved gain control in the presence of interference. (Col. 1, lines 50-51)

### ***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
12. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then



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the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linda Wong whose telephone number is 571-272-6044. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LW

A handwritten signature in black ink, appearing to read 'Linda Wong', with a long horizontal flourish extending to the right.

**DAC:HA**  
**PRIMARY EXAMINER**